

WHAT IS CLAIMED IS:

1. A method for fabricating a counter electrode for a dye-sensitized solar cell, the method comprising:

co-sputtering platinum and a metal oxide as target materials onto a substrate; and

forming a counter electrode including nanocrystalline platinum and an amorphous metal oxide on the substrate.

2. The method of claim 1, wherein the metal oxide has a refractive index of 2 or higher.

3. The method of claim 1, wherein the metal oxide is selected from oxides of titanium, chromium, zinc, copper, ruthenium, vanadium, tin and indium.

4. The method of claim 1, wherein the metal oxide has an electric conductivity of at least 0.1 S/m.

5. The method of claim 1, wherein the metal oxide has an open structure.

6. The method of claim 1, wherein the metal oxide is an open-structured transition metal.

7. The method of claim 6, wherein the metal oxide is selected from oxides of tantalum, silicon, and aluminum.

8. A method for fabricating a counter electrode, the method comprising:

sputtering platinum onto a substrate to form nanocrystalline platinum on the substrate;

sputtering a metal oxide onto the substrate to form an amorphous metal oxide on the substrate; and

forming an electrode from the nanocrystalline platinum and the amorphous metal oxide on the substrate.

9. The method of claim 8, wherein the metal oxide has a refractive index of 2 or higher.

10. The method of claim 8, wherein the metal oxide is selected from oxides of titanium, chromium, zinc, copper, ruthenium, vanadium, tin and indium.

11. The method of claim 8, wherein the metal oxide has an electric conductivity of at least 0.1 S/m.

12. The method of claim 8, wherein the metal oxide has an open structure.

13. The method of claim 8, wherein the metal oxide is an open-structured transition metal.

14. The method of claim 13, wherein the metal oxide is selected from oxides of tantalum, silicon, and aluminum.